AMENDMENT TO THE CLAIMS

1. (***Currently Amended***) An additive composition, comprising:

a Mannich reaction product of

a) a polyisobutylene alkylated hydroxyaromatic compound;

b) an aldehyde; and

c) an amine containing at least one reactive amino group,

wherein the said polyisobutylene alkylated hydroxyaromatic compound is derived from a combination of a conventional polyisobutylene and a high vinylidene polyisobutylene; and wherein the said polyisobutylene alkylated hydroxyaromatic compound is derived by:

i) combining the conventional polyisobutylene and the high vinylidene polyisobutylene prior to the alkylation of the hydroxyaromatic compound; or

ii) combining a hydroxyaromatic compound alkylated with the conventional, polyisobutylene and a hydroxyaromatic compound alkylated with the high vinylidene polyisobutylene.

2. (***Original***) The additive composition of claim 1 wherein the conventional polyisobutylene has a trisubstituted double bond isomer content of 45 mole % or greater.

3. (***Original***) The additive composition of claim 1 wherein the high vinylidene polyisobutylene has a combined alpha- and beta-vinylidene double bond isomer content of 70 mole % or greater.

4. (***Original***) The additive composition of claim 1 wherein the polyisobutylene of the alkylated hydroxyaromatic compound has an alpha- and beta-vinylidene double bond isomer content of 50 to 95 mole % and a trisubstituted double bond isomer content of 4 to 40 mole %.

5. (***Original***) The additive composition of claim 1 wherein the said polyisobutylene is derived by combining the conventional polyisobutylene and the high vinylidene polyisobutylene prior to the alkylation of the hydroxyaromatic compound.

6. (***Original***) The additive composition of claim 1 wherein the said polyisobutylene is derived by combining a hydroxyaromatic compound alkylated with the conventional polyisobutylene and a hydroxyaromatic compound alkylated with the high vinylidene polyisobutylene.

7. (***Original***) The additive composition of claim 1 wherein the said polyisobutylene is derived by combining a Mannich reaction product from a hydroxyaromatic compound alkylated with the conventional polyisobutylene and a Mannich reaction product from a hydroxyaromatic compound alkylated with the high vinylidene polyisobutylene.

8. (***Original***) The additive composition of claim 1 wherein the said polyisobutylene has a number average molecular weight ranging from 500 to 3,000.

9. (***Original***) The additive composition of claim 1 wherein the hydroxyaromatic compound is phenol, the aldehyde is formaldehyde or a reactive equivalent thereof, and the amine is a secondary monoamine, an alkylenediamine, or a mixture thereof.

10. (***Original***) A fuel additive concentrate composition for an internal combustion engine, comprising:

a solvent;

the additive composition of claim 1; and

optionally one or more additional fuel additives.

11. (***Original***) A fuel composition for an internal combustion engine, comprising:

a major amount of a fuel; and

a minor amount of the additive composition of claim 1.

12. (***Original***) A fuel composition for an internal combustion engine, comprising:

a major amount of a fuel; and

a minor amount of the fuel additive concentrate composition of claim 10.

13. (***Original***) A method to reduce deposit formation in a fuel system of an internal combustion engine, comprising:

operating the engine with the fuel composition of claim 11.

14. – 16. (***Cancelled***)

17. (*New*) The composition of claim 1 wherein the weight ratio of conventional PIB to high vinylidene PIB is from 25:75 to 60:40.

18. (*New*) The fuel composition of claim 11 wherein the weight ratio of conventional PIB to high vinylidene PIB is from 25:75 to 60:40.

19. (*New*) The method of claim 13 wherein the weight ratio of conventional PIB to high vinylidene PIB is from 25:75 to 60:40.